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Midland Witch Hazels.

BY J. A. NIEUWLAND.

Rafinesque had described various species of Witch Hazels as segregates from *Hamamelis virginiana* Linn., but none of these are now accepted by American botanists at large, as having sufficiently distinctive or constant characters to warrant recognition. All or nearly all were described from the southern or southeastern United States, and concerning their validity we need not concern ourselves here, as none are to be looked for within the region embraced by this article. Their descriptive diagnosis has been made sufficiently plain and Rafinesque's original article may be consulted by such as wish to study them critically.[1] Walter[2] published several species and Pursh[3] one, which all met the same fate as those of Rafinesque. Pursh even advanced the opinion that the northern common Witch Hazel was specifically different from the southern one. The only other species admitted by botanists generally beside *H. virginiana* Linn. are the oriental *H. japonica* Sieb. & Zucc,[4] also *H. verna* Sarg. which blooms in spring.

The type of the genus came from Virginia whence Mitchell[5] first indicated the plant as typical of a new genus, though it had been known long before. He pointed out in criticism of the Genera Plantarum of Linnaeus of 1737, that a number of generic types had been omitted from that work. Among these was his genus *Trilopus* called by Linnaeus *Hamamelis*, the latter name having been used by older botanists, and even the ancients for a vacciniaceous, or pomaceous plant. Linnaeus had in other cases caused confusion by assuming old classical names for newly discovered genera, as for example in case of *Itea*, *Ptelea*, *Dodocatheon*, etc.

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[1] Rafinesque, C. S. New Fl. Am. III, pp. 16 and 17, (1836).

[2] Walter, T., Fl. Car. p. 255. (1788).

[3] Pursh, F. Fl. Am. Sept. I, p. 116 (1814).

[4] Siebold, P., and Zuccarini, J. Abh. Akad. Muench. IV, II, p. 193, (1843).

[5] Mitchell, J., Act. Ac. Leop. Carol. VIII, pp. 187, 224, also Mitchel. J. Dissert brevis de Prin. Bot. App. Norimb. 1769.

Linnaeus was quite aware of Mitchell's work by correspondence, but before the latter had succeeded in having this article printed, Linnaeus[6] had himself taken up most of these genera giving them names of his own. Moreover, there seemed to have been a questionable motive in "setting back" the date of some of his publications, apparently to make it appear that he had not gotten his information from Mitchell, so that the actual date of the Act. Ups. from title at least was not "1741" but 1746. Mitchell himself dated his observations "Dabam ex aedibus meis Virginiae 11, 3, 1741," so that the reprint of 1769 seems a further protest against the apparently unjust procedure of Linnaeus. The relative priority of all the names in question is discussed individually by Kuntze.[7] *Hamamelis* was then first published in Linnaeus' Genera Plantarum where it was attributed to Gronovius' Flora Virginica. The name however, is not to be found in the latter work part I, and part II appeared only in 1743. The following is the synonymy:

HAMAMELIS Linn. Gen. Pl. Ed. 2, p. 54, (1742).
    Trilopus Mitchell Ac. Acad. Leop. Carol. VIII, app. 211, (1748), also (1769), l. c.
    Hamamelis Linn. Gen. P. Ed. 5 p. 59, (1754). Sp. Pl. p. 124, (1753).

HAMAMELIS VIRGINIANA Linn. Sp. Pl. p. 124, (1753).
    Hamamelis corylifolia Moench, Meth. p. 274, (1794).
    Hamamelis virginica Linn., Syst. Ed. XII, p. 129, (1767).
    Trilopus virginicus Raf., New Fl. Am. III, p. 15.
    Trilopus riparius Raf. l. c.
    Hamamelis riparia Raf. l. c.
    Tr. or *H.hyemalis* Raf. l. c.

Rafinesque having attempted to make segregates extensively from the species, has perhaps described what may be considered as the type in perhaps the most characteristic manner of any botanist, short though his diagnosis may be. We may quote the description in full: "510. Tr. or H. Virginica Raf. med. fl. tab. 45. Leaves ovate and obovate obtuse repand, base obliquely cordate, smooth; flowers sessile clustered by 3 to 5, calyx and fruit pubescent—the name of *Tr.* or *H. riparia* or *hyemalis*, would have been better, since it only grows on the margins of the streams from New England to Carolina. It is in bloom in December and January, even when the snow is on the ground, and the fruit is ripe in the spring. Branches punctate." In the Medical Flora he says that the fruit takes a year to mature. We have usually found ripe fruit with flowers. We should say that the leaves are membranous or at least thin, though Rafinesque seems to infer that they are coriaceous. He continues[8] in reference to the change of name already discussed: "This is a very singular genus, formed by Linnaeus with the *Trilopus* of Mitchell, which name he ought not to have changed for the actual, which is the Greek name of the *Mespilus* or *Medlar tree*."

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[6] Linnaeus, C. Act. Ups. "Annum 1741" (1746).

[7] Kuntze, O., Revisio Generum Plantarum pt. II, p. 519, (1891).

Hamamelis virginiana var. **angustifolia** nov. var.

Frutex circa 2 m. altus sero in autumno florescens foliis adhuc praesentibus. Ramuli fusco vel atro-fuscato colore: folia glabra, grosse dentata, vel undulata, tenuia, venosa, apice acuto vel plerumque etiam acuminata, basi inaequali, cordata saltem in altero latere. Folia in ramulis sterilibus generatim ovata vel ovato-lanceolata; lamina 6–12 cm. longa, 3–6 cm. lata aliquando sparse pilis brevibus albis inferiore facie pubescens. Petala 4 circa 1.5 cm. longa et minus quam .5 mm. lata. Flores sessiles 3-4 in ramulorum summitate aggregati. Bracteae et sepala dense tomentulosa. Sepala viridia. Fructum non inveni.

This plant is easily recognized by its very narrow leaves compared with the type. The petals are lemon yellow, long and very narrow about one half as narrow usually as those of *H. virginiana*. The shrub shows less tendency to branch, the twigs are long and wiry, the petioles slender and comparatively long (1.5–2 cm.). The leaves are scarcely as thin as in the type, and present on blooming branches whereas in the species they have invariably fallen off. I select as type No. 10431 of my herbarium, found myself Oct. 17, 1912, one mile north of Hudson Lake (Laporte Co.), Ind., a short distance in a Tamarack-White Pine bog. The swamp formerly contained an abundance of *Pinus Strobus* Linn., which has since disappeared almost completely by the woodman's ax. Though the plant possesses a number of good characters that led me at first glance in its native habitat to recognize it as very different from the other Witch Hazels of our region, I refrain from publishing it as a species not having studied it in all its seasonal changes, nor having found any trace whatever of fruit.

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[8] Rafinesque, C. S. Med. Flora. Vol. I. p. 228, (1828).

Hamamelis virginiana var. **orbiculata** var. nov.

Frutex cum ramis atro-cinereis glabris nisi in summitate et ibi tomentulosis. Folia orbiculata, firma, vel subcoriacea, parva, 1.5–5 cm. longa, (saepe latiora quam longa, maxima nunquam longiora quam 5 cm.) apice obtuso vel rotundato, basi cordata plus minusve inaequali; margine dentato vel eroso-undulato vel crenato; folia subtus dense tomentulosa ferrugineis pilis, vel glabra, in superficie aliquando pubescentia, Petioli 1 cm. haud excedentes, crassi, tomentulosi.

This plant differs from the preceding in shape and texture of the leaves very strikingly. The habit of the plant with its smooth gray branches and short internodes and numerous flowers is noticeable at first glance. The buds are pubescent and the outer bracts short, giving them the appearance of a minute acorn. The shape of the leaves is very constant and notable, the apex scarcely larger than a marginal tooth and often undefined. The teeth are small. The plant called *H. rotundifolia* Raf. or *H. macrophylla* of the south could not be mistaken for it owing to the larger leaves of the southern plant, whether the latter be recognized ever as either species or variety. The leaves of the southern plant are described as 3–4 inches long.

The type of *H. virginiana* var. *orbiculata* was found in the dune region of Lake Michigan at Tamarack about 7 or 8 miles west of Michigan City, Ind., on Sept. 22, 1910, and is No. 719 of my herbarium. The flowers were not as yet in bloom and the plant perhaps deserves specific rank owing to its striking vegetative characters alone.

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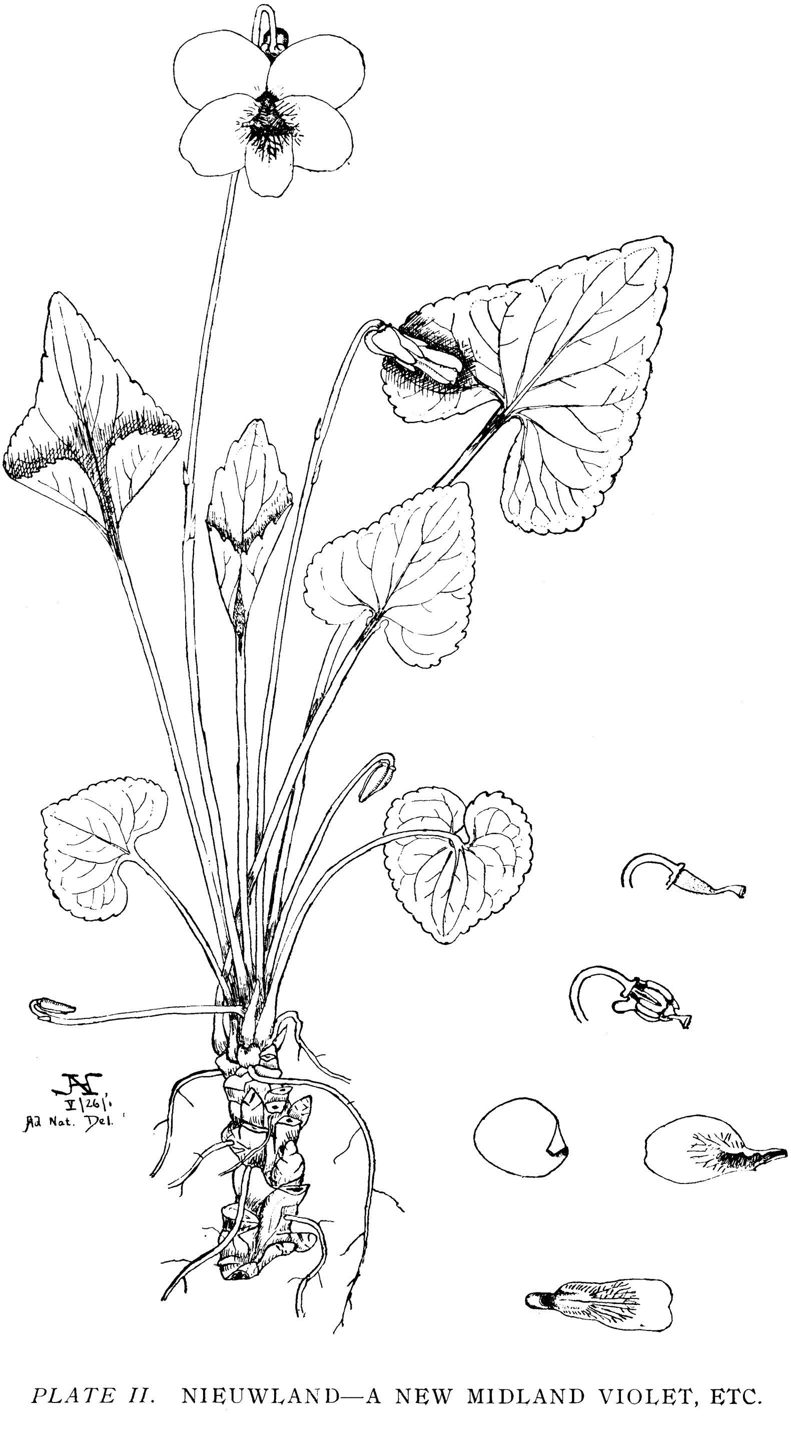

PLATE II. NIEUWLAND—A NEW MIDLAND VIOLET, ETC.